

***Adaptive Management  
and Experimentation on  
the Trinity River***

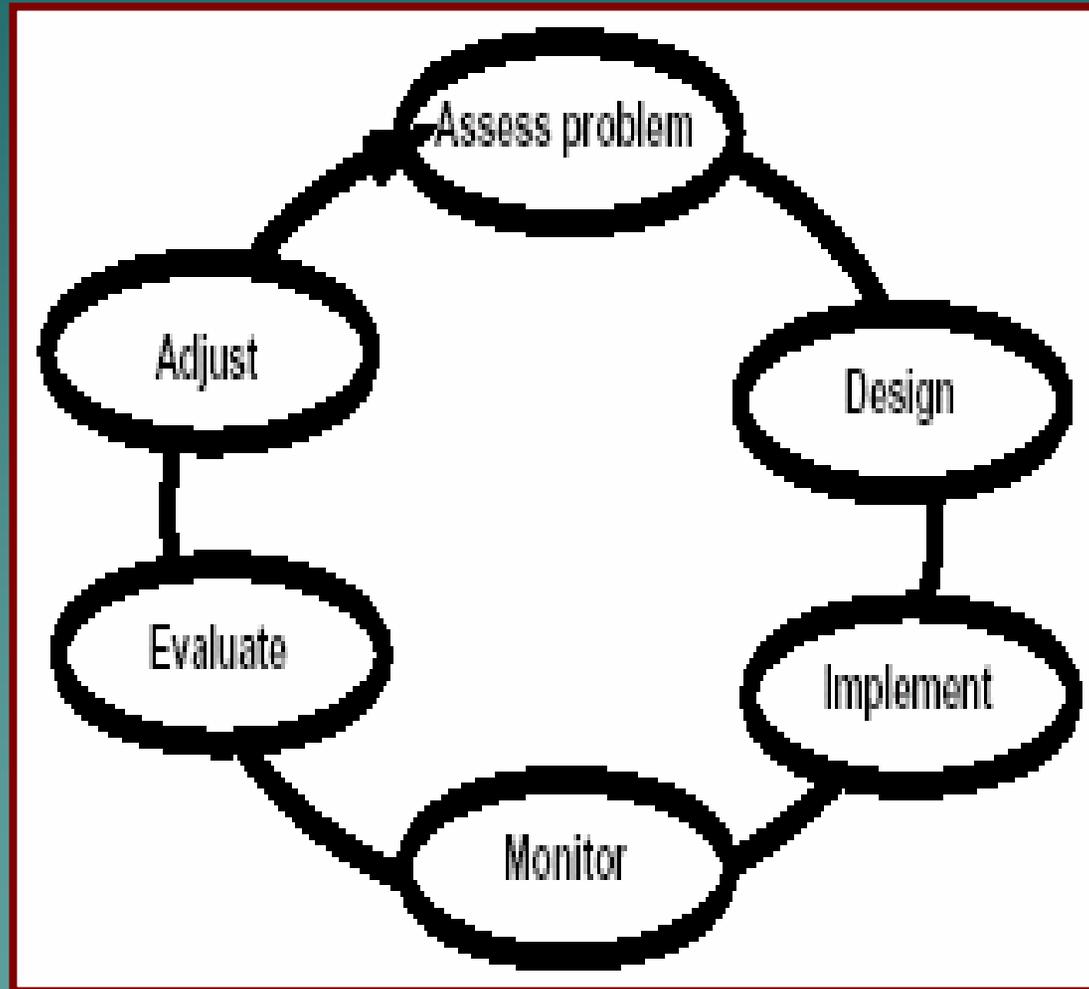
A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, extending from the right edge towards the center.

# ***What is AM?***

“Adaptive management is a formal, systematic and rigorous approach to learning from the outcomes of management actions; accommodating change and improving management. It involves synthesizing existing knowledge, exploring alternative actions and making explicit forecasts about their outcomes.

(Nyberg 1999)

# *General Steps for Adaptive Management*



# *When do you use AM?*

- ◆ Uncertainty in the outcome.
- ◆ Competing goals
- ◆ Knowledge seeking
- ◆ Repeated actions
- ◆ Need new ways to accomplish objectives
- ◆ Management needs to be flexible

# ***Attributes for Successful AM***

- ◆ Acknowledge uncertainty
  - ◆ Involve stakeholders in goal setting
  - ◆ Prepare for change.
  - ◆ Develop explicit conceptual models for how we think the system works.
  - ◆ Focus on driving variables, not symptoms.
  - ◆ Commitment to learning AND doing.
  - ◆ Effective leadership
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- A decorative graphic of a teal mountain range is located in the bottom right corner of the slide.

# *Two Modes of AM*

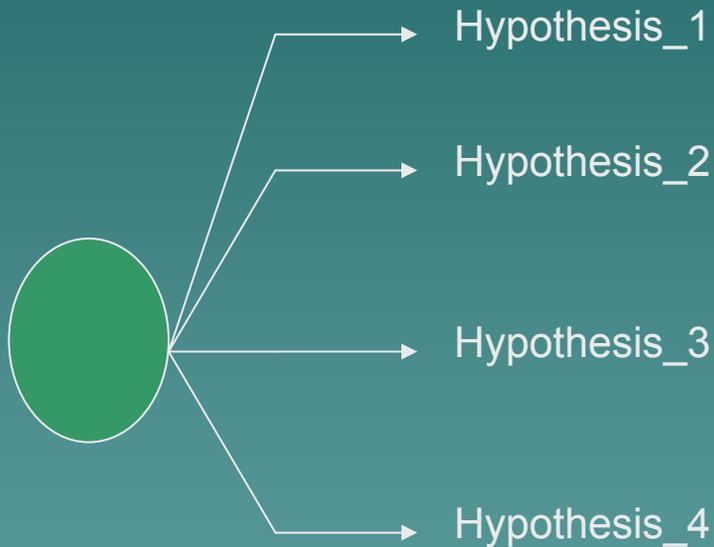
## Refinement model

- ◆ Focused on management outcome
- ◆ Seeks refinement
- ◆ Monitoring focus on response of desired variable
- ◆ May be “high” risk
- ◆ May be “low” uncertainty
- ◆ Low levels of controversy
- ◆ One “best” action/hypothesis

## Exploratory model

- ◆ Focused on learning
- ◆ Seeks new ways
- ◆ “high” risk, or uncertainty
- ◆ Gains understanding of mechanisms
- ◆ High levels of controversy
- ◆ Multiple actions/hypotheses possible

# Key Features of Experimental AM



- ◆ Considers a variety of plausible competing hypotheses and possible actions.
- ◆ Favors multiple modes of inquiry and paths to understanding.
- ◆ Identifies and models key variables and drivers.
- ◆ Builds-in monitoring and assessment processes.
- ◆ Structured, not open-ended; includes thresholds and alternatives

# ***TAMWG Participation***

The purpose of the TAMWG is to assure thoughtful involvement in the Trinity River restoration program, particularly the adaptive management process.

TAMWG provides an opportunity for stakeholders to give policy and management input about restoration efforts to the TMC.

TAMWG will be formally organized, including technical committees.

# Technical Modeling & Analysis Group

Interdisciplinary group of scientists, engineers, and technical specialists, responsible for conducting and managing complex technical studies and projects, and integrating the products of those studies and projects into management objectives and recommendations.

# *Technical Workgroups*

- ◆ Bank rehabilitation/restoration site design and implementation.
  - ◆ Flow scheduling
  - ◆ Sediment management/gravel enhancement
  - ◆ Monitoring methods and objectives
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# *Conclusions*

- ◆ AM is a structured, rigorous process with clear thresholds, alternatives, evaluations and endpoints.
- ◆ Not everything the TRRP does will necessarily need to involve the AM process.
- ◆ Commitment to improving management should drive choosing AM, not foregoing making a decision.
- ◆ AM institutionalizes flexibility & learning.